General Education Reflection Paper

Cyber Security Ethics (CybE 234)

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As an engineer, I have an instinct to quickly identify problems and generate hasty solutions. However, that instinct can backfire; in all the rush to solve a problem, have you verified that your solution actually does any good for people? As someone who works in computer spaces, where it's easy to separate yourself from the physical world and from gritty situations, it's important to remember that there are real people you're serving who lead drastically different lives.

I got a taste for how little I know about the world in my human sexuality course (HD FS 276). Since much of human sexual experience is ostracized, hidden, or ignored by the majority of the US population, many deep-seated necessities or accommodations related to sexuality go unaddressed in popular engineering solutions. For instance, the pill, the pad, and the tampon were all met with some amount of resistance due to menstrual stigma. If I want to know more about undeserved demographics, I need to do the work of putting myself in unfamiliar places and having socially taboo conversations.

While seeking out first-hand experiences is a useful tool for gaining a broader cultural experience, there are limiting factors to what I can learn on my own: some people live in remote, distant locations, and not all human experiences can be accurately expressed through conversation alone. Literature can be used to overcome these limitations, as I learned in my Introduction to Literature course (Engl 201). Through a diverse array of literature, be it early native american texts, ancient mythological accounts, or romantic-period writings from around the globe, I was instilled with a deeper intuition for foreign times, places, and peoples. Reading up on the history of a people and their present condition can aid an engineer in identifying a group's most gripping issues.

To solve complex social issues, engineers must make some simplifying assumptions. These assumptions serve to ignore some parameter or behavior that makes a system difficult to model under the

guise that it *should* be insignificant enough to ignore. These assumptions can be especially useful when trying to derive actionable insights about complex, chaotic systems, such as economies.

Basic economics (Econ 101) taught me that while some economic systems obey a simple supply-demand curve, others must consider additional factors, such as economies of scale, or the pressure monopolies and cartels assert in a market. In order to accurately work within an environment, it's important to find the balance between making assumptions that make our jobs feasible and avoiding making faulty, over-simplifying assumptions.

Cybersecurity isn't the only discipline that addresses bad actors; my money and banking course (Econ 353) showed me how the intricate balance of monetary theory breaks down when the good practices that keep a market stable are violated. Disasters such as the Venezuelan hyper-inflation and the Enron collapse occur when incompetence or malicious behaviors go unchecked. These are lessons that ethics in engineering aren't just moral; they're functional safeguards. Whether it's the economy, a farming operation, or a computer network, bad actors can destroy the function of a system if left unchecked. It's my duty and the duty of my peers to safeguard our systems from malpractice.